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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR   | ATTORNEY DOCKET NO.           | CONFIRMATION NO. |
|---|-------------|------------------------|-------------------------------|------------------|
| 10/634,595  | 08/04/2003  | Steven H. Schwartzkopf | 4617                          | 6524             |
| 23294   | 7590        | 08/03/2005             |                               |                  |
| JONES, TULLAR & COOPER, P.C.<br>P.O. BOX 2266 EADS STATION<br>ARLINGTON, VA 22202 |             |                        | EXAMINER<br>HRUSKOCI, PETER A |                  |
|   |             |                        | ART UNIT                      | PAPER NUMBER     |
|   |             |                        | 1724                          |                  |
| DATE MAILED: 08/03/2005   |             |                        |                               |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/634,595

Applicant(s)

SCHWARTZKOPF, STEVEN H.

Examiner

Peter A. Hruskoci

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,6,7,9,10 and 21-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6,7,9,10,21-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 7, 9, 21-23, 25 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwatani 4,198,301. Iwatani disclose (see col. 3 line 5 through col. 6 line 40 the structure of the apparatus substantially as claimed. The claims differ from Iwatani by reciting the apparatus includes particles having a specific size, and a specific storage reservoir connected to the inlet port of said filter chamber. It is submitted that the size of the particles utilized in the filter of Iwatani is considered patentably indistinguishable from the size recited in the instant claims. It is further submitted that the connection of the storage reservoir or pit 30 of Iwatani to the inlet port, or to a discharge port, would have been an obvious matter of engineering design to one skilled in the art, depending on the specific water treated and result desired. It would have been obvious to one skilled in the art to modify the apparatus of Iwatani by including the recited storage reservoir, to aid in collecting the contaminated backwash liquid for further filtration. The specific particle size and pressure range utilized would have been an obvious matter of engineering design to one skilled in the art depending on the specific liquid filtered and results desired, absent a sufficient showing of unexpected results.

Claims 32, 33, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwatani as above, and further in view of Hsiung et al. 4,608,181. The claims differ from Iwatani as applied above by reciting dual filter chambers are provided connected in series. Hsiung et al. disclose (see col. 4 line 35 through col. 5 line 51, and col. 9 lines 24-68) that it is known in the

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art to utilize dual filter chambers connected in series in a water filtration apparatus. It would have been obvious to one skilled in the art to modify the apparatus of Iwatani by including the dual filter chambers in view of the teachings of Hsiung et al., to aid in filtering the process liquid.

Claims 6, 24, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwatani as above, and further in view of Cochrane 4,211,656. The claims differ from Iwatani as applied above by reciting that the mass of particles expands to a specific volume during backwashing, and the apparatus includes a specific control means or system, and dual filter chambers connected in parallel. Cochrane disclose (see col. 2 line 9 through col. 5 line 29) that it is known in the art to utilize the recited volume, to aid in backwashing a liquid filtration apparatus, and a plurality of filter cells connected in parallel monitored by a microprocessor, to automatically sequence the backwashing of the filter cells. It would have been obvious to one skilled in the art to modify the apparatus of Iwatani by utilizing the recited volume, control means, and dual filter chambers, in view of the teachings of Cochrane, to aid in backwashing the filter bed, and removing particulates from the process liquid.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwatani as above, and further in view of Daley et al. 5,178,772. The claim differs from Iwatani as applied above by reciting the filtration apparatus includes a specific ultraviolet reactor. Daley et al. disclose (see col. 3 line 4 through col. 6 line 66 that it is known in the art to utilize the recited reactor in combination with a filter to aid in removing metal contaminants from aqueous solutions. It would have been obvious to one skilled in the art to modify the apparatus of Iwatani by including

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the recited reactor in view of the teachings of Daley et al., to aid in removing metal contaminants from the liquid.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwatani as above, and further in view of Muller et al. 4,383,920. The claim differs from the references as applied above by reciting that the apparatus includes a specific vent tube. Muller et al. disclose (see col. 2 line 4 through col. 4 line 27) that it is known in the art to utilize a vent valve to relieve air and add air to a filter tank. It would have been obvious to one skilled in the art to modify apparatus of Iwatani as applied above by including the recited vent tube in view of the teachings of Muller et al., to aid in removing or adding air to the apparatus.

Claims 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwatani as above, and further in view Holland 6,067,653 and Banks 4,885,083. The claim differ from Iwatani as applied above by reciting the apparatus includes a specific spray head to backwash contaminants selectively operable when the filtered liquid drops below a predetermined flow rate. Banks disclose (see col. 2 line 18 through col. 3 line 44) that it is known in the art to utilize a backwash shower nozzle to automatically deliver wash water to a filter bed in response to a pressure drop across the bed. Holland disclose (see col. 10 lines 6-40) that it is known in the art to utilize a flow rate sensor connected to a control panel of filter apparatus to monitor the backwashing requirements of the apparatus. It would have been obvious to one skilled in the art to modify the references as applied above by utilizing the recited spray head and flow sensor in view of the teachings of Banks and Holland, to aid washing contaminants from the filter bed.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed.

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Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3, 7, 9, 10, 21-25, 27, 28, and 32-36 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6,638,422. Although the conflicting claims are not identical, they are not patentably distinct from each other because structure of the apparatus recited in the instant claims appears to be encompassed in the claims of the patent.

Claim 26 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6,638,422 in view of Muller et al. 4,383,920. The claim differs from the claims of the patent by reciting that the apparatus includes a specific vent tube. Muller et al. disclose (see col. 2 line 4 through col. 4 line 27) that it is known in the art to utilize a vent valve to relieve air and add air to a filter tank. It would have been obvious to one skilled in the art to modify the claims of the patent by including the recited vent tube in view of the teachings of Muller et al., to aid in removing or adding air to the apparatus.

Claims 6, 24, and 29-31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6,638,422 in view of Cochrane 4,211,656. The claims differ from the claims of the patent by reciting that the

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mass of particles expands to a specific volume during backwashing, and the apparatus includes a specific control means or system, and dual filter chambers connected in parallel. Cochrane disclose (see col. 2 line 9 through col. 5 line 29) that it is known in the art to utilize the recited volume, to aid in backwashing a liquid filtration apparatus, and a plurality of filter cells connected in parallel monitored by a microprocessor, to automatically sequence the backwashing of the filter cells. It would have been obvious to one skilled in the art to modify the claims of the patent by utilizing the recited volume, control means, and dual filter chambers, in view of the teachings of Cochrane, to aid in backwashing the filter bed, and removing particulates from the process liquid.

Claims 28 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, upon the filing of a proper terminal disclaimer.

Applicant argues that because of the design information disclosed in Iwatani, applicant submits that one skilled in the art would not be motivated to use super-buoyant particles within the range recited in the instant claims. It is submitted that the particles used in Iwatani appear to have a specific gravity lower than half of the liquid being treated as in the instant method. It further appears from Fig. 1 of Iwatani that the floating filter medium 10 includes particles which are much smaller than the adsorbent or filter material 11, which can include zeolite, activated carbon, or sand. Furthermore, applicant has not supplied sufficient factual evidence to support the above argument.

Applicant alleges because of the design of the system in Iwatani, the size of the buoyant particles in Iwatani is similar to the size of the particles in Hsiung, and one skilled in the art

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would not be motivated to use super-buoyant within the size range claimed in the present application for a variety of reasons. It is noted that the instant particles can be made from expanded polystyrene as disclosed on page 13 of the instant specification, which appears to be the material exemplified in Iwatani. It is further noted that the specific gravity of these particles as recited in the instant claims appears to be disclosed in Iwatani and lower than the specific gravity disclosed in Hsiung. Furthermore, applicant has not supplied sufficient comparative evidence with Iwatani and Hsiung, to support the above allegation.

Applicant alleges that neither Hsiung nor Iwatani provide for super-buoyant filter bed particles having a size that require a process fluid pressure of from approximately 20 to 150 psi for process fluid to flow through said filter bed as recited in claim 9. Applicant has not present sufficient comparative evidence with Hsiung and Iwatani to support the above allegation.

Applicant argues that the expansion in the presently claimed invention uses a high-pressure, solid-cone spray nozzle to expand the bed to clean it, and one would not be motivated to combine the teaching directed to the expansion of a non-buoyant bed as in Cochrane with the expansion of super-buoyant particles as in instant claim 6. It is submitted that a solid-cone spray nozzle does not appear to be recited in claim 6. Furthermore, applicant has not provided sufficient factual evidence to support the above argument.

Applicant's arguments concerning Daley, Muller, Holland, and Banks, are based on the propriety of Iwatani, which is deemed properly applied for reasons stated above.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter A. Hruskoci whose telephone number is (571) 272-1160. The examiner can normally be reached on Monday through Friday from 6:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Peter A. Hruskoci  
Primary Examiner  
Art Unit 1724

8/1/05

